

ABSTRACT

A system and method are disclosed for the detection of ethylene oxide in a sample of gas, such as air. The system includes a light source operating at a wavelength where molecules typically found within air absorb light at a substantially lower level than ethylene oxide molecules. Exemplary wavelengths are in the range of approximately 1.6 – 2.2 μm , and in particular at 1.6 μm , 1.645 μm , 1.692 μm , 2.195 μm , 2.2 μm , 2.216 μm , passes through the sample of gas to be detected by a detector. In one embodiment, the light source is a tunable diode laser or a VCSEL and the ethylene oxide level is determined using harmonic spectroscopy.